Amendments to the Claims

Please make the following amendments to the Claims:

1. (Currently Amended) An apparatus for managing incremental storage, the apparatus comprising:

a policy management module that sets a storage management policy for storage capacity of an existing incremental backup virtual volume, wherein the existing incremental backup virtual volume stores incremental storage data from an incremental storage operation of a primary volume and the existing incremental backup virtual volume comprises at least one storage volume of a storage pool;

a storage pool management module that monitors available storage capacity of the existing incremental backup virtual volume and to change the storage capacity of the existing incremental backup virtual volume in response to the storage management policy and the available storage capacity, wherein changing the storage capacity comprises dynamically allocating and de-allocating a storage volume of the storage pool to the existing incremental backup virtual volume in response to the change to the storage capacity; and

an incremental log corresponding to the existing incremental backup virtual volume, wherein the incremental log maps a virtual address of the existing incremental backup virtual volume assigned to the incremental storage data to

a physical storage address of the at least one storage volume of the storage pool

wherein the policy management module and the storage module comprise at least one of logic hardware elements and executable code, the executable code stored on one or more computer readable media.

2. (Original) The apparatus of claim 1, wherein the physical storage address comprises a volume identifier.

3. (Previously Presented) The apparatus of claim 1, wherein the storage pool management module[[is]] further allocates and de-allocates a portion of a storage volume to the existing incremental backup virtual volume.

4. (Previously Presented) The apparatus of claim 1, further comprising a read module that reads data stored in the existing incremental backup virtual volume by way of a data path independent from a data path used to store the incremental storage data.

5. (Previously Presented) The apparatus of claim 1, wherein the storage pool management module allocates and de-allocates storage volumes without user input.

6. (Previously Presented) The apparatus of claim 1, wherein the storage pool management module[[is]] further allocates a second storage volume to the existing incremental

backup virtual volume in response to a reduction in available space on a first storage volume.

7. (Previously Presented) The apparatus of claim 1, wherein the storage pool comprises at least one storage volume corresponding to a redundant set of storage devices.

8. (Original) The apparatus of claim 7, wherein the redundant set of storage devices comprises a RAID (Redundant Array of Independent Disks) storage array.

9. (Original) The apparatus of claim 1, wherein the incremental log comprises a lookup table.

10. (Previously Presented) The apparatus of claim 1, wherein the storage pool management module[[is]] further increases the storage capacity in response to the available storage capacity increasing above a first storage capacity threshold and to decrease the storage capacity in response to the available storage capacity decreasing below a second storage capacity threshold.

11. (Previously Presented) The apparatus of claim 10, wherein the storage pool management module[[is]] further de-allocates storage volumes wherein the de-allocated storage volumes are available for allocation to a virtual volume unrelated to the existing incremental backup virtual volume.

12. (Previously Presented) A method for managing incremental storage, the method comprising:

monitoring available storage capacity of an existing incremental backup virtual volume and changing a storage capacity of the of the existing incremental backup virtual volume in response to a storage management policy and the available storage capacity, wherein the existing incremental backup virtual volume stores incremental storage data from an incremental storage operation of a primary volume and the existing incremental backup virtual volume comprises at least one storage volume of a storage pool, the at least one storage volume allocated to the existing incremental backup virtual volume;

dynamically allocating and de-allocating a storage volume of the storage pool to the existing incremental backup virtual volume in response to a change to the storage capacity of the existing incremental backup virtual volume; and

mapping in an incremental log corresponding to the existing incremental backup virtual volume a virtual address of the existing incremental backup virtual volume assigned to the incremental storage data to a physical storage address of the at least one storage volume of the storage pool.

13. (Previously Presented) The method of claim 12, further comprising providing incremental snapshot data of the primary volume in response to a replication operation.

14. (Previously Presented) The method of claim 12, wherein changing a storage capacity of the existing incremental backup virtual volume further comprises alerting a user of a storage over-utilization or under-utilization and changing the storage capacity in response to user input.

15. (Previously Presented) The method of claim 12, further comprising reading data stored in the existing incremental backup virtual volume by way of a data path independent from a data path used to store the incremental storage data.

16. (Previously Presented) A system for managing incremental storage, the system comprising:

a primary volume;

a baseline volume that stores a baseline backup copy of data on the primary volume;

a storage pool with at least one storage volume that stores incremental storage data from an incremental storage operation of the primary volume in response to changes in data stored on the primary volume after storing the baseline backup copy on the baseline volume, wherein the storage volume is allocated as an existing incremental backup virtual volume;

a policy management module that sets a storage management policy for available storage capacity of the existing incremental backup virtual volume;

a storage pool management module that monitors available storage capacity of the existing incremental backup virtual volume and changes the storage capacity of the existing incremental backup virtual volume in response to the storage management policy and the available storage capacity, wherein changing the storage capacity comprises dynamically allocating and de-allocating a storage volume of the storage pool to the existing incremental backup virtual volume in response to the change to the storage capacity; and

an incremental log corresponding to the existing incremental backup virtual volume, wherein the incremental log maps a virtual address of the existing incremental backup virtual volume assigned to the incremental storage data to a physical storage address of the at least one storage volume of the storage pool.

17. (Previously Presented) The system of claim 16, further comprising a replication module that transmits the incremental data from the primary volume to the existing incremental backup virtual volume.

18. (Previously Presented) The system of claim 17, wherein the incremental data comprises incremental snapshot data of the primary volume.

19. (Previously Presented) The system of claim 16, wherein

the primary volume comprises a plurality of primary volumes;

the existing incremental backup virtual volume comprises an existing incremental backup virtual volume corresponding to each primary volume, each existing incremental backup virtual volume comprising at least one storage volume of the storage pool;

the incremental log comprises an incremental log corresponding to each existing incremental backup virtual volume; and

the storage pool management module monitors available capacity of each existing incremental backup virtual volume and allocates and de-allocates storage volumes for each existing incremental backup virtual volume from the storage pool.

20. (Previously Presented) The system of claim 16, wherein the storage module[[is]] further allocates and de-allocates a portion of a storage volume to the existing incremental backup virtual volume.

21. (Previously Presented) The system of claim 16, wherein the baseline volume is part of the storage pool.

22. (Previously Presented) The system of claim 16, wherein the policy management module resides in a host.

23. (Cancelled)

24. (Previously Presented) A computer readable storage medium comprising computer readable program code for managing incremental storage, wherein the program code:

monitors available storage capacity of an existing incremental backup virtual volume;

changes a storage capacity of the existing incremental backup virtual volume in response to a storage management policy and the available storage capacity, wherein the existing incremental backup virtual volume stores incremental storage data from an incremental storage operation of a primary volume and the existing incremental backup virtual volume comprises at least one storage volume of a storage pool, the at least one storage volume allocated to the existing incremental backup virtual volume;

dynamically allocates and de-allocates a storage volume of the storage pool to the existing incremental backup virtual volume in response to a change to the storage capacity of the existing incremental backup virtual volume; and

maps in an incremental log corresponding to the existing incremental backup virtual volume a virtual address of the existing incremental backup virtual volume

assigned to the incremental storage data to a physical storage address of the at least one storage volume of the storage pool.

25. (Previously Presented) The computer readable storage medium of claim 24, wherein the program code[[is]] further provides incremental snapshot data of the primary volume in response to a replication operation.

26. (Previously Presented) The computer readable storage medium of claim 24, further comprising reading data stored in the storage pool by way of a data path independent from a data path used to store incremental data.

27. (Cancelled)

28. (Previously Presented) A method for deploying a computer readable medium for managing incremental storage, the method comprising:

determining customer requirements for incremental storage;

deploying a storage management program for managing incremental storage, the storage management program comprising

monitoring available storage capacity of an existing incremental backup virtual volume and changing a storage capacity of the of the existing incremental backup virtual volume in response to a storage management policy and the available storage

capacity, wherein the existing incremental backup virtual volume stores incremental storage data from an incremental storage operation of a primary volume and the existing incremental backup virtual volume comprises at least one storage volume of a storage pool, the at least one storage volume allocated to the existing incremental backup virtual volume;

dynamically allocating and de-allocating a storage volume of the storage pool to the existing incremental backup virtual volume in response to a change to the storage capacity of the existing incremental backup virtual volume; and

mapping in an incremental log corresponding to the existing incremental backup virtual volume a virtual address of the existing incremental backup virtual volume assigned to the incremental storage data to a physical storage address of the at least one storage volume of the storage pool; and

maintaining the storage management program.